

Risk Assessment

Risk Assessment for the activity of:	StageSoc General Risk Assessment Training, tidying and other general activities within performance areas and storage spaces. Set builds, get-ins and get-outs, tech rehearsal, dress rehearsals and performances.	Date:	04/10/2023
Group Name:	SUSU Stage Technicians' Society	Assessor:	James Turner (Annex Officer)
Supervisor:	Simon Ruddock (Society President)	Signed off:	SUSU Activities Team

PART A - Risk assessment

(1) Risk Identification			(2) Risk assessment				(3) Risk management			
Hazard	Potential Consequences	Who might be harmed (See Risk Groups section)	Inherent			Control Measures	Residual			Further Controls
			Likelihood	Impact	Score		Likelihood	Impact	Score	

Section 1 - Common risks encountered

Carrying Heavy Loads	Short- and long-term injury from incorrect lifting technique	X	4	4	16	All StageSoc members receive H&S training, which includes manual handling training.	2	4	8
						Crew must ensure that they follow proper lifting procedure, reminding others when necessary.			
						Ensure that the lift is planned beforehand, including route and destination and communicate this to all involved.			
						Ensure that all crew members are aware of their own capabilities and are not pushed to exceed them.			
						Crew encouraged to use gloves and other Personal Protective Equipment (PPE) when they deem necessary.			
						When carrying, breaks should be taken every 10m or where necessary.			

Moving of flight cases / staging / palettes / bulky equipment	Injuries from movement of equipment	G X	4	4	16	All StageSoc members receive H&S training, which includes manual handling training.	2	4	8			
											Crew must ensure that they follow proper lifting procedure, reminding others when necessary.	
											Crew are to wear steel-toe-capped boots when handling deck, and sturdy footwear for other handling (e.g. not to wear flip-flops).	
											Where possible, items should be transported on wheels.	
											All crew to be aware of surroundings whilst moving in public areas (e.g. Highfield campus) and a designated leader should clear the way of pedestrians.	
Falling from height (ladders)	Injuries from falling to ground, fragile surfaces or being impaled onto items below	X	4	4	16	All StageSoc members receive H&S training, which includes training on the proper use of ladders.	2	4	8	Ladder inspections to be carried out by the Annex Officer every 3 months, and after any incident involving a ladder.		
											Ensure that all locking pins are secure whilst the ladder is in use.	
											Ensure that the ladder is being footed by another member of crew where appropriate (such as while lifting heavier loads).	
											Ensure ladder has an in-date inspection tag attached.	
											No crew member should carry excessive loads up ladders (e.g. a rope and pulley system should be used to raise heavy loads). If any item is dropped, a loud verbal warning must be given (e.g. "Heads!").	
Items dropped from height	Head injuries from items (e.g. spanners) dropped from height	B C G X	5	4	20	All StageSoc members receive H&S training, which includes training on safe working at height.	2	4	8	Ladder inspections to be carried out by the Annex Officer every 3 months, and after any incident involving a ladder.		
											Ensure that all crew members are aware of their own capabilities carrying loads up ladders and are not pushed to exceed them.	
											Avoid intentionally dropping items from height if possible, even if area below seems clear. If unavoidable, warn those in vicinity.	
											Secure tools to user/ladder using lanyards whenever possible.	
											Ensure others are aware of work going on at height and that the area directly under the ladder is kept clear. No crew member should carry excessive loads up ladders (e.g. A rope and pulley system should be used to raise heavy loads). If any item is dropped, a loud verbal warning must be given (e.g. "Heads!").	

Touching hot lanterns	Burns from contact with hot lanterns	X	4	3	12	Ensure that all crew members are aware of safe working methods, including knowing where the lantern is safe and not safe to touch.	1	3	3	If burn occurs, treat under cool, running water as soon as possible.
						Ensure person up ladder is aware which lights are on.				
						If possible allow lantern to cool before moving.				
						Use yoke or handles to move lantern at low power.				
						Use PPE where appropriate (e.g. Gloves).				
Fixtures falling due to failure of rigging hardware	Wide range of injuries from falling objects	A B C G X	2	4	8	Ensure that clamps are done up tightly and that safety chains / bonds are used for hanging fixtures. These are to be rated for 10x static fixture weight.	1	4	4	Annex Officer to carry out a set inspection before set is used by cast and report anything that needs to be rectified to the Technical Director.
						Ensure that bars are adequately secured to the ceiling/walls with each use and that any extra bars are firmly secured to those pre-installed.				
						All weight-bearing equipment should be tested and limits adhered to.				
						Crew should not overload installed or extra bars.				
Falling set or materials	Wide range of injuries from falling objects	A B C G X	4	4	16	Flats should be stored properly and roped against the wall where possible.	2	4	8	Annex Officer to carry out a set inspection before set is used by cast.
						Avoid unstable stacking of sheet materials/set etc. especially in public areas.				
						Flats on stage must be securely fixed by wire/rope or braces.				
Truss / scenery collapsing	Wide range of injuries from heavy falling objects	A B C G X	4	5	20	Ensure all truss / bars are adequately secured to the ceiling/walls or are correctly and adequately supported from the ground with stands/legs.	1	5	5	
						Do not overload truss/bars/stands.				

Fire risk from lanterns	Serious burns and smoke inhalation, possible loss of life or property damage	A B C G X	4	5	20	Ensure lanterns are placed a suitable distance away from set, drapes, etc.	2	5	10	Annex Officer is to check that all fabrics on the stage that do not form part of the standard stage draperies have been adequately treated with flame retardant.
						Ensure lanterns are PAT tested according to industry recommendations and cleaned of dust.				
						Ensure all set, drapes, fabric, masking etc. have been sufficiently recently treated with an appropriate fire retardant sufficiently recently.				
Spread of fire by combustible materials	Serious burns and smoke inhalation, possible loss of life or property damage	A B C G X	4	5	20	Ensure that scenery, props and masking are built from inherently fire retardant materials if possible.	1	5	5	
						Alternatively, treat with suitable fire retardant.				
						Keep combustible materials away from sources of ignition.				
Incorrect use of power tools	Major injury from tools	C X	5	5	25	Ensure that all personnel using tools are properly trained and are competent to use them.	2	4	8	All powered tools will undergo regular maintenance and cleaning, with additional maintenance if faults are reported. This is to be done every 2 months due to their frequency of use. Cast are only allowed to use battery-powered drills for the purpose of undoing screws in set during a get-out.
						Tools should be plugged into a supply protected by an RCD circuit breaker or used with a standalone plug-in RCD.				
						Ensure tools are kept in a good state of repair and have not had safety features disabled, in accordance with PUWER.				
						Ensure tool is visually inspected before every use.				
						Work pieces should be properly secured/supported and guides clamped in place.				
						Hands and hair should be kept clear of blades/bits/etc.				
						Appropriate PPE (e.g. eye protection, dust masks, ear defenders etc.) should be worn when using power tools.				

Incorrect use of hand tools	Minor injury from tools	X	5	3	15	Ensure that all personnel using tools are properly trained and are competent to use them.	2	3	6	Hand tools are to be inspected every month, with damaged items removed from use and replaced.
						Ensure tools are kept in a good state of repair.				
						Work pieces should be properly secured/supported and guides clamped in place.				
						Hands and hair should be kept clear of blades/bits/etc.				
Using paints / varnishes / solvent-based chemicals	Respiratory distress (or long-term illness) or eye damage	C G X	4	3	12	Follow instructions on containers and use in well-ventilated areas or outdoors when instructed to do so.	2	3	6	
						Take particular care with coatings that have a high VOC content, and only use in well-ventilated areas, or outdoors.				
						Wear respiratory PPE if necessary.				
Use of COSHH designated substances	Long-term illness from exposure to substances	G X	4	3	12	Keep COSHH items locked in a designated cupboard when not in use.	2	3	6	Substances classified as COSHH are not to be used by any person that is not a trained StageSoc member.
						Have Material Safety Data Sheets (MSDSs) immediately available.				
						Minimise exposure to substances.				
						Use in accordance with manufacturer's instructions.				
Injury from nails, needles, pins, splinters etc.	Minor puncture wounds	B C G X	4	3	12	Nails / screws should be recessed or flush with surfaces.	2	3	6	Annex Officer to carry out a set inspection before set is used by cast.
						Any protrusions should be covered to reduce the risk of injury and people should be made aware of the risk.				
						Appropriate, sturdy footwear to be worn at all times.				
						Plane or sand wood to remove splinters.				
						Exercise extra care when moving unfinished set pieces or dismantling set as splinters / protruding nails may be present; advise people to wear gloves.				
						Good housekeeping should be maintained e.g. stage should be swept regularly.				
						Costumers should take reasonable precautions to avoid injury from pins and needles, including being properly trained on the safe use of sewing machines etc.				

Risk of fire from electrical appliances	Serious burns and smoke inhalation, possible loss of life or property damage	A B C G X	4	5	20	PAT (Portable Appliance Test) equipment according to industry recommendations.	2	5	10	Equipment that fails PAT testing or shows signs of damage is taken out of use and replaced or repaired by a competent person.	
											Inspect equipment for signs of wear/damage before each use.
											Use appropriate cables and fuses for installation.
											Ensure all set, drapes, fabric, masking etc. have been sufficiently recently treated with an appropriate fire retardant sufficiently recently.
Electric shock	Major cardiac injury from electric current	A B C X	4	5	20	PAT (Portable Appliance Test) equipment according to industry recommendations.	2	5	10	Due to the frequency and nature of their use, all electrical items are to receive a combined inspection and test every 12 months. Hand-operated machinery and equipment that uses water (e.g. kettles) are to receive a combined inspection and test every 6 months.	
											Ensure that equipment has valid PAT certification / sticker if hired.
											Inspect equipment for signs of wear/damage before each use.
											Use appropriate cables and fuses for installation.
											Ensure equipment is unplugged before servicing / replacing blown lamps etc.
											Equipment should only be serviced by those sufficiently competent and experienced to service them.
											Lighting equipment should only be handled while live for focusing and extra care should be taken.
				Stage / truss should be earthed when electrical appliances are used.							
				Inform all persons of the location of electrical isolator switches and nearest telephone for use in the event of an emergency.							
Trip hazards (e.g. cables and set)	Grazes and sprains from tripping	A B C G X	5	3	15	Avoid routing cables across walkways if possible (e.g. by taping over doors etc.).	2	3	6	Annex Officer to carry out a set inspection before set is used by cast.	
											Tape cables down where they have to be run across floors.
											Ensure fire exit routes are kept clear of obstructions.
											Clearly mark hazards.
											Ensure that good housekeeping is maintained.

Loud noise	Hearing damage from noise	B C X	4	4	16	Avoid excessive volumes. Where excessive noise levels are necessary limit the time period, and ensure that only necessary personnel are in the vicinity.	2	4	8	
						Advise the use of ear plugs if the noise level is above 87dB(A).				
						Ensure persons operating sound equipment are sufficiently trained and competent.				
						Follow industry good practice and advice from HSE.				
Dehydration & Exhaustion	Fatigue and Dehydration	B C X	4	4	16	If any person feels or appears unwell or tired they should be encouraged to rehydrate and rest.	2	4	8	Everybody should monitor each other for symptoms.
						If any person feels or appears unwell or tired they should not be allowed to work at height or with power tools.				
						Ensure water / fluids are available for all cast and crew.				
						Work for prolonged periods of time should be discouraged.				
Working in low light	Minor injury from scrapes or collisions	B C X	4	4	16	Ensure everyone is aware of periods of dim lighting / blackout before they occur.	3	4	12	
						Ensure crew are aware that risks are increased in dim light.				
						Avoid working in complete blackout.				
						Ensure that members are aware of procedures for working in dim light including no running.				
						Advise the use of head torches for persons carrying out other activities.				
						Brief crew and cast of trip hazards in wing / working spaces, walkways to be kept clear.				
						Members should be aware of their own H&S.				
			Ensure good communication is kept throughout the process.							

Section 2 - Additional risks that may occur in some production weeks

Putting up / taking down staging	Major injuries from improper handling (e.g. back strain)	X	4	4	16	All StageSoc members receive H&S training, which includes manual handling training.	2	4	8	
						Crew encouraged to use gloves and other Personal Protective Equipment (PPE) when they deem necessary.				
						The use of steel toe-capped boots or shoes is required to handle and move deck.				
						All others present should be wearing appropriate, sturdy footwear (no sandals, flip-flops etc.).				
						Staging should be bolted together as soon as possible.				
						People should not walk on top of the staging whilst people are bolting it together (unless both parties are aware of the other's activities and extra care is taken).				
						Take care that legs have not come loose from the staging before taking it down, ensure that any loose legs are removed safely, and not allowed to fall uncontrollably.				
Injury from incomplete set (staging)	Major injury from falling from incomplete set	B C X	4	4	16	Crew should be reminded to take extra care during the get-in / get-out of a show as set pieces may not have been securely fixed or have had safety features fitted (e.g. hand rails).	2	4	8	Rehearsals are not permitted on stages where the staging (the raised platforms) is incomplete, or where the incomplete set is in a hazardous state. Annex Officer to carry out a set inspection before set is used by cast.
						Any incomplete set should be highlighted to the Technical Director.				
						Technical director should make sure all personnel are made aware of any incomplete set, verbally or by means of signage.				
						All staging should be completed and bolted as soon as is reasonably possible.				

Falling from height (staging)	Major injury from falling from staging	B C X	4	4	16	High stairs / platforms (5ft and over) should have handrails fitted.	2	4	8	Annex Officer to carry out a set inspection before set is used by cast.
						All stairs coming off the raised platform / staging should have handrails.				
						Mark all platform edges with white tape.				
						If there are several steps they should all be of equal height.				
						Avoid gaps between staging and ramps / stairs.				
						Raised toe boards to be added on all sides of raised band "pit" areas to prevent chair legs sliding off the back of raised platforms.				
Stage Collapsing	Major injury from collapsing stage	B C X	4	5	20	Secure stage pieces together with appropriate connecting blocks or bolts and tighten thoroughly.	1	5	5	Annex Officer to carry out a set inspection before set is used by cast.
						Ensure clamps on legs are adequately secured.				
						Do not overload staging.				
						Ensure that stage pieces are safe to use (all clamps work correctly)				
Stairs Collapsing	Major injury from collapsing stairs	B C X	4	4	16	Ensure stairs are properly assembled and secured to each other / the stage.	2	4	8	Annex Officer to carry out a set inspection before set is used by cast.
						Do not overload stairs.				
						Ensure that competent persons oversee the construction.				
Theatrical Smoke	Respiratory Distress, minor injuries from impaired vision	A B C X	4	4	16	Crew should be advised of the use of smoke so that any medical problems can be identified in advance.	2	4	8	If Oil-based fluid is used then all persons should be informed of the hazards that this type of smoke can cause. Refer to the MSDS for further details.
						Signs should be posted or a pre-show announcement made to inform the audience that smoke will be used.				
						If someone has trouble breathing after inhalation of smoke, they should be taken to clean air and kept under supervision.				
						Events switch is used to set fire alarm system to heat detection only to prevent accidental fire evacuation procedure.				
						Ensure people are aware of the geography of the stage, and the risks associated with lowered visibility.				
						Provision should be made for rapid clearing of smoke.				

Strobe Lighting	Possible inducement of epileptic fits and injuries arising from impaired spatial awareness during flashing	A B C X	3	4	12	<p>Before the strobe is used it should be ensured that nobody in the cast, crew or production are affected. If someone could be affected, provisions should be considered such as them leaving the room.</p> <p>During rehearsals a warning should be given before any strobes are used where possible.</p> <p>Signs should be posted or a pre-show announcement made to inform the audience that strobe lighting will be used.</p> <p>Crew should be made aware of the procedures to be followed should someone have a seizure (i.e. remove local hazards).</p>	1	4	4

Section 3 - Cryogenics

Use of cryogenics is subject to the "StageSoc Cryogenic Safety Information" document, available on the StageSoc Filestore. This requires a safety briefing to be given to all cast and crew before any use of cryogenics.

Handling of cryogenic Materials	Burns arising from contact with cryogenic materials due to improper storage	X	5	4	20	An insulating polystyrene container of sufficient thickness is used to contain cryogenic substances.	2	4	8	
Storage of cryogenic materials	Minor injury from projected material, caused by pressure build-up in storage container	B C X	5	4	20	Container lid will be loose and lightweight as to allow built-up gas to escape easily from the container.	2	4	8	
Storage of cryogenic materials	Hypothermia and Hypoxia caused by build-up of noxious gases	A B C G X	4	4	16	Cryogenic materials will not be stored in any show venue overnight. They are collected daily for each performance.	2	4	8	The Technical Director is to appoint a Cryogenic Supervisor, who is responsible for the handling and dispensing of cryogenic material. The StageSoc committee is to be notified of this appointment.
						Whilst not on stage the cryogenic materials shall be kept in a controlled storage location with adequate ventilation.				
						The auditorium will be well-ventilated.				

Handling of cryogenic Materials	Burns arising from contact with cryogenic materials	C X	4	3	12	Rubber gloves meeting BS EN 511 will be worn during the handling of cryogenic substances whilst not in a suitable container, or whilst being decanted.	2	3	6	
						Personnel are instructed not to touch cryogenic material with bare hands.				
						The storage container shall be kept in a controlled storage location with adequate ventilation.				
Handling of cryogenic Materials whilst onstage	Burns arising from contact with cryogenic materials	C	5	4	20	Only necessary personnel to handle substances.	2	4	8	
						To avoid contact with bare hands, cast are to only handle substances inside a container.				

Section 4 - Pyrotechnics A: Naked Flames

This risk assessment does not cover the use of any other pyrotechnic effect, other than naked flames. The use of other pyrotechnic effects is subject to separate risk assessment by a qualified pyrotechnician. A safety briefing is to be given to all cast and crew before any use of pyrotechnics.

Combustibles on stage, within vicinity of naked flames	Serious burns and smoke inhalation, possible loss of life or property damage	A B C G X	5	5	25	All combustibles on stage to be sprayed with flame-retardant chemicals to inhibit ignition.	2	4	8	The fire warden is to be competent and the committee notified of their appointment. Annex Officer to test the fire resistance of combustibles onstage during the set inspection.
						Naked flames to be kept away from highly combustible materials.				
						Airborne combustibles (e.g. confetti) not to be used in the vicinity of naked flames.				
						Have a fire extinguisher at the side of stage in case of fire. To be used by a dedicated crew member (a "fire warden") waiting by the side of the stage whilst the flame is lit.				
Combustible costumes within vicinity of naked flames	Serious burns and smoke inhalation, possible loss of life or property damage	C	5	5	25	Costume design is to minimise loose or dangling items / parts or baggy areas to minimise chance of accidental contact with flame.	2	4	8	Annex Officer to test the fire resistance of a sample of costume materials during the set inspection.
						Fire retardant materials to be used for costume construction wherever possible / appropriate.				
People within vicinity of flames	Serious burns and smoke inhalation, possible loss of life or property damage	A B C X	5	5	25	Cast nearby or holding flames to be instructed about safe practices (no running, sudden movements, flailing of limbs etc.), and acting adjusted where necessary to reduce unnecessary "exposure" to flames.	2	3	6	The designated, qualified first aider should be available backstage, with first aid kit, during scenes where naked flames are used.
						Burns appropriate first aid available at all times.				



Section 5 - Security

Unauthorised access by public during set builds	Harm to public by incomplete set, damage to set by public	A B C G X	4	3	12	Use construction barriers in foyer to block public access to work carried out in foyer during set builds.	1	3	3	Security Supervisor to be notified in advance of late-night working beyond 11PM.
						Building 2A (Annex) doors on external ID card access from 6PM onwards to prevent public access out-of-hours.				
						Annex doors on internal ID card access from 11PM onwards to prevent public access out-of-hours.				
						Annex doors to be controlled by crew and cast while public are present for shows.				
Lone Working	Wide range of injuries arising from lone working	B C X	3	5	15	Lone working is forbidden, members are not to be working alone in the Annex.	1	5	5	
Threat to safety travelling late at night	Distress, Minor injuries	A B C G X	2	3	6	Members encouraged to travel to / from activities in groups.	1	3	3	

PART B - Action Plan

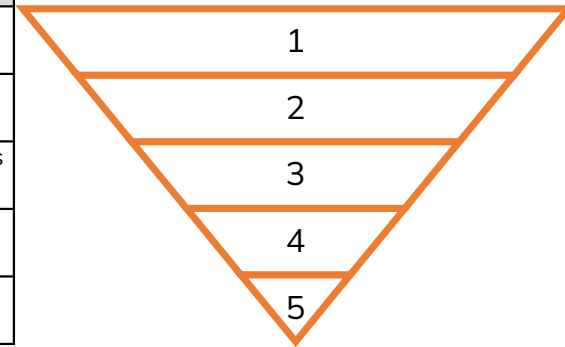
Risk Assessment Action Plan

Part no.	Action to be taken, incl. Cost	By Whom	Target Date	Review Date	Outcome at review Date
1	Individual Risk assessments for shows with higher risk and anything not covered by this general risk assessment.	TD for the show.	Two weeks prior to show week commencing	Committee members to review at the next possible committee meeting after completion.	
2	Any use of pyrotechnics requires an additional risk assessment.	A suitably qualified pyrotechnician.	Two weeks prior to show week commencing	Committee members to review at the next possible committee meeting after completion.	
3	This risk assessment is subject to review annually or after any major incident.	Relevant committee members.	One year from the date of this risk assessment being carried out	Rest of committee members to review at the next possible committee meeting after completion.	

Responsible Committee Member Signature: 		Responsible Committee Member Signature: 	
Print Name: James Turner	Date: 04/10/23	Print Name: Simon Ruddock	Date: 04/10/23

Risk Assessment Guidance

Control Measure Hierarchy		
Eliminate	Remove the hazard wherever possible which negates the need for further controls.	If not possible then explain why.
Substitute	Replace the hazard with one less hazardous.	If not possible then explain why.
Physical Controls	Examples: enclosure, fume cupboard, glove box.	Likely to still require admin controls as well.
Admin Controls	Examples: training, supervision, signage.	
Personal Protection	Examples: respirators, safety specs, gloves.	Last resort as it only protects the individual.



Risk Assessment Matrix						
LIKELIHOOD	5	5	10	15	20	25
	4	4	8	12	16	20
	3	3	6	9	12	15
	2	2	4	6	8	10
	1	1	2	3	4	5
	1	2	3	4	5	
	IMPACT					

Likelihood		
1	Rare	eg. 1 in 100,000 chance or higher
2	Unlikely	eg. 1 in 10,000 chance or higher
3	Possible	eg. 1 in 1,000 chance or higher
4	Likely	eg. 1 in 100 chance or higher
5	Very Likely	eg. 1 in 10 chance or higher

Impact		
1	Trivial- insignificant	Very minor injuries eg. slight bruising.
2	Minor	Injuries or illness eg. Small cut or abrasion which require basic first aid treatment even if self-administered.
3	Moderate	Injuries or illness eg. Strain or sprain requiring first aid or medical support.
4	Major	Injuries or illness eg. Broken bone requiring medical support > 24 hours and time off work >4 weeks.
5	Severe - extremely significant	Fatality or multiple serious injuries or illness requiring hospital admission or significant time off work.

Risk Groups		
A	Audience	People that enter performance locations as patrons.
B	Band	Members of the show company that are primarily located in the band "pit".
C	Cast	All other members of a show company, including production team.
G	General Public	Any member of the public not attending a show.
X	Crew	Any person that is involved with technical aspects of a show.